



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D5425-043
Job Sheet 188014



Part No: D5425-043

Job Qty: 1 ea

Part Name: Float Skidtube Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/31/18

Job Tracking No:

Due Date: 2/20/19

Created By: Jesse White

Type: Stock

Description:

Note: DWG D5425 REV.B IPP REV:A 17.11.02 NEW ISSUE DD VERF:JFS IPP REV:B 18.08.20 AS PER DWG
REV.B DD VERF:DP

Ship Via:



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL : 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S142818



Part: D5425-043

Job No: 188014

Serial No/Batch: S142818

Revision: B

Inspector:

Exp Date:

Instructions: Various STC's

Date: 01/08/19

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/20/19	0.00	0.00	Start Up Skid tubes-2		DD
110	Skid tubes	1 pcs		2/20/19	0.00	8.24	Skid tubes-3		DD
120	CNC Vertical Machining	1 pcs		2/20/19	0.00	22.77	HAAS1-4		DD
130	QC	1 pcs		2/20/19	0.00	0.00	QC2 Machining-4		DD
140	QC	1 pcs		2/20/19	0.00	0.00	QC8 Machining-4		DD
150	HandFinish	1 pcs		2/20/19	0.00	0.24	HandFinish1		DD
160	QC	1 pcs		2/20/19	0.00	0.00	QC7-5		DD
170	CNC Bend Skid tubes	1 pcs		2/20/19	0.00	2.63	CNC Bend Skid tube		DD
180	QC	1 pcs		2/20/19	0.00	0.00	QC5		DD
190	Skid tubes	1 pcs		2/20/19	0.00	8.24	Skid tubes-3		DD
200	QC	1 pcs		2/20/19	0.00	0.00	QC5		DD
210	HandFinish	1 pcs		2/20/19	0.00	0.24	HandFinish6		DD
220	QC	1 pcs		2/20/19	0.00	0.00	QC7-5		DD
230	Skid tubes	1 pcs		2/20/19	0.00	8.24	Skid tubes-3		DD
240	QC	1 pcs		2/20/19	0.00	0.00	QC5		DD
250	HandFinish	1 pcs		2/20/19	0.00	0.24	HandFinish6		DD
260	QC	1 pcs		2/20/19	0.00	0.00	QC7-5		DD
270	SprayPaint	1 pcs		2/20/19	0.00	0.00	Spray Paint		DD
280	QC	1 pcs		2/20/19	0.00	0.00	QC14		DD
290	HandFinish	1 pcs		2/20/19	0.00	0.24	HandFinish6		DD
300	QC	1 pcs		2/20/19	0.00	0.00	QC5		DD
310	Packaging	1 pcs		2/20/19	0.00	0.00	Packaging3		DD
320	QC21-SA	1 Ea		2/20/19	0.00	0.00	QC21		DD

Part Op 110 - 1-Cut tube to finished length as per Dwg. 2-Deburr ends as per Dwg.

Descriptions: 120 - 1-Machine as per Dwg. and Folio FB536 DWG REV: B FOLIO REV: AA 2-Deburr as per Dwg.

150 - 1-Scrub inside of tube with medium scotchbright.

170 - 1-Bend Aft end of tube as per Dwg. and Folio 4.375. Insert Bending mandrel DT 10328 at 20.0" from aft end. Use buggy A,B,C. to stabilize tube. HEIGHT 4.375 2-Bend Forward end of tube as per Dwg. and Folio 4.375. Insert Bending mandrel DT 10328 at 12.0" from fwd end. Use buggy A,B,C To stabilize tube. HEIGHT 4.375 3-Record dimensions on work order.

180 - #NAME?

190 - 1-Drill remaining holes of DETAIL M, N, P. USING DT10340 A,B,C,D 2-Open holes to finished size as per Dwg. 3-Deburr holes per QSI002 section 4.2.3 and blow out all chips from inside of tube.

230 - 1-Wet install crossbolt spacers of Section G-G. Swage to 0.437 as per Dwg. PRIMER B 5108160 Start Time: 1:40pm Finish Time: 4:40pm ***CURE TIME 6HRS. BEFORE PROCEEDING TO NEXT STEP*** 2-Swage crossbolt spacers of Section F-F to 0.313 as per Dwg. 3-Trim / Grind flush, deburr. 4-Identify per QSI 044 6.1

250 - ***DO NOT SUBMERGE TUBE IN DEOXIDIZER***

270 - ***PLUG ALL CROSSBOLT SPACER HOLES PRIOR TO PRIME AND PAINT*** 1-PRIME AS PER DWG AND QSI005 4.2.1.3.3 PRIMER BATCH: 5189559 2-PAINT AS PER DWG AND QSI005 4.2.2.4 PAINT BATCH: 5189315290 - 1-Install FWD and AFT cap seal with sikaflex-241 / 291 B 5163337 Exp: 1/11/20 Start time: 1:40pmFinish time: 4:40pm 2-Coat all exposed hardware with LPS Procyon. Remove any excess off with MEK degreaser.A/R LPS Procyon B 4033690

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6028-195	Crosstube Material, 7075-T73/T73511	1 Ea (1 ea)	90-Start up Operation	5017944
D5518-1	Crossbolt Spacer	18 pcs (18 ea)	230-Skid tubes	5148261
D5512-1	Crossbolt Spacer	12 pcs (12 ea)	230-Skid tubes	5148351
AN3C5A	Bolt	6 Ea (6 ea)	290-HandFinish	5142141
D3672-1	Washer, Phenolic	6 pcs (6 ea)	290-HandFinish	5164000
D5483-041	Tow Cap Assembly	1 pcs (1 ea)	290-HandFinish	5150217
D5484-041	Aft Cap Assembly	1 pcs (1 ea)	290-HandFinish	5151947
NAS1149C0332R	Washer	6 Ea (6 ea)	290-HandFinish	5158070

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WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

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Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Eng. (Non-AW) ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Water Jet ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Supplier Quality ☐</td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Eng. (Non-AW) ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Water Jet ☐	Large Fab ☐	Finishing ☐	Rec/Store/Packaging ☐	Supplier Quality ☐																								
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Other/Details:																																									

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6028-195	1	13	0
230-Skidtubes	D5512-1	12	40	0
	D5518-1	18	93	0
290-HandFinish	AN3C5A	6	1,249	0
	D3672-1	6	1,959	0
	D5483-041	1	0	0
	D5484-041	1	0	0
	NAS1149C0332R	6	3,130	0
Part Specifications				
Specifications could not be found.				

Plex 12/31/18 2:12 PM dart.white.jesse

Entered: _____ Date: _____

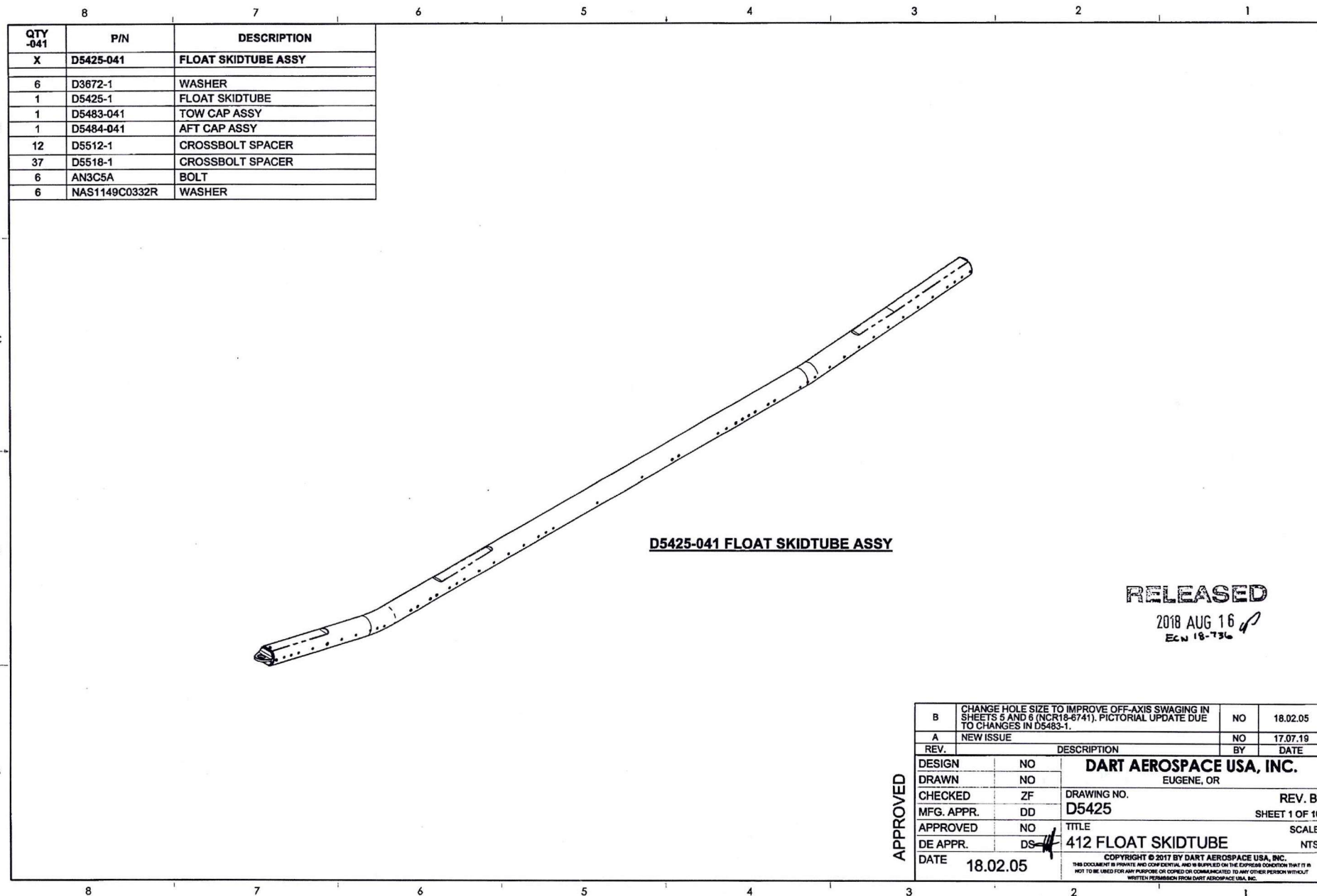


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

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Route update only ☐

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Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
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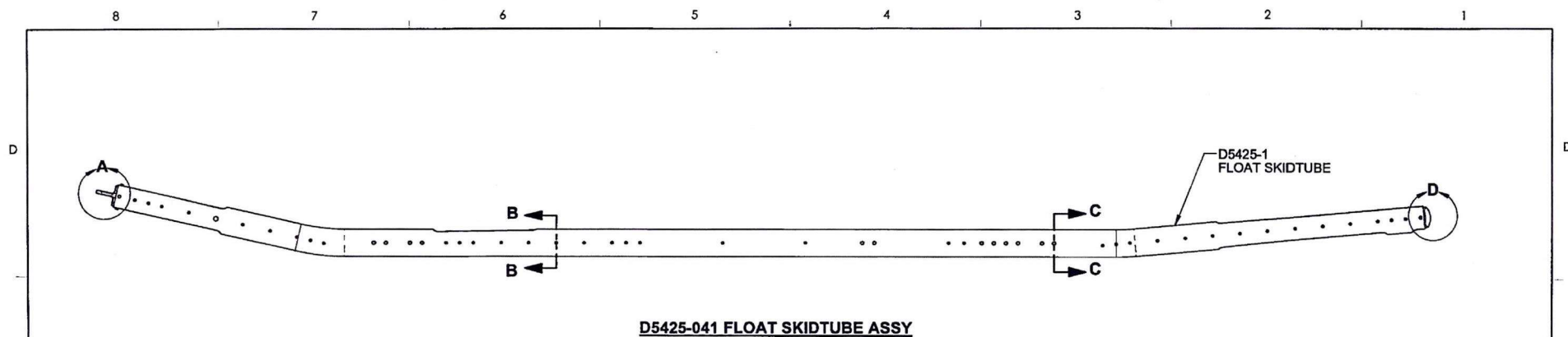


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APPROVED	DESIGN	NO	DART AEROSPACE USA, INC.	
	DRAWN	NO	EUGENE, OR	
	CHECKED	NO	DRAWING NO.	REV. B
	MFG. APPR.	DD	D5425	SHEET 2 OF 10
	APPROVED	NO	TITLE	SCALE
	DE APPR.	DS	412 FLOAT SKIDTUBE	NTS
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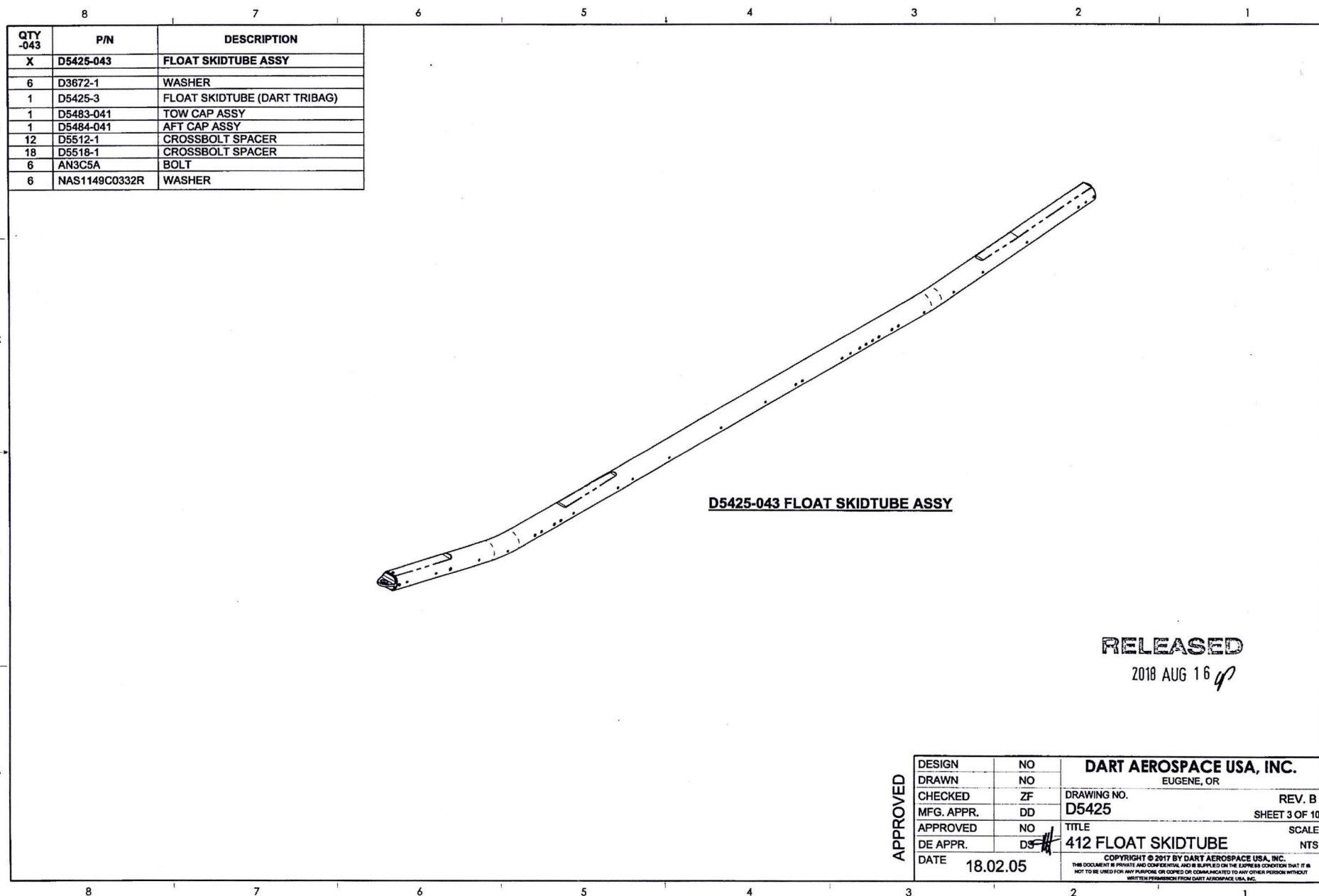


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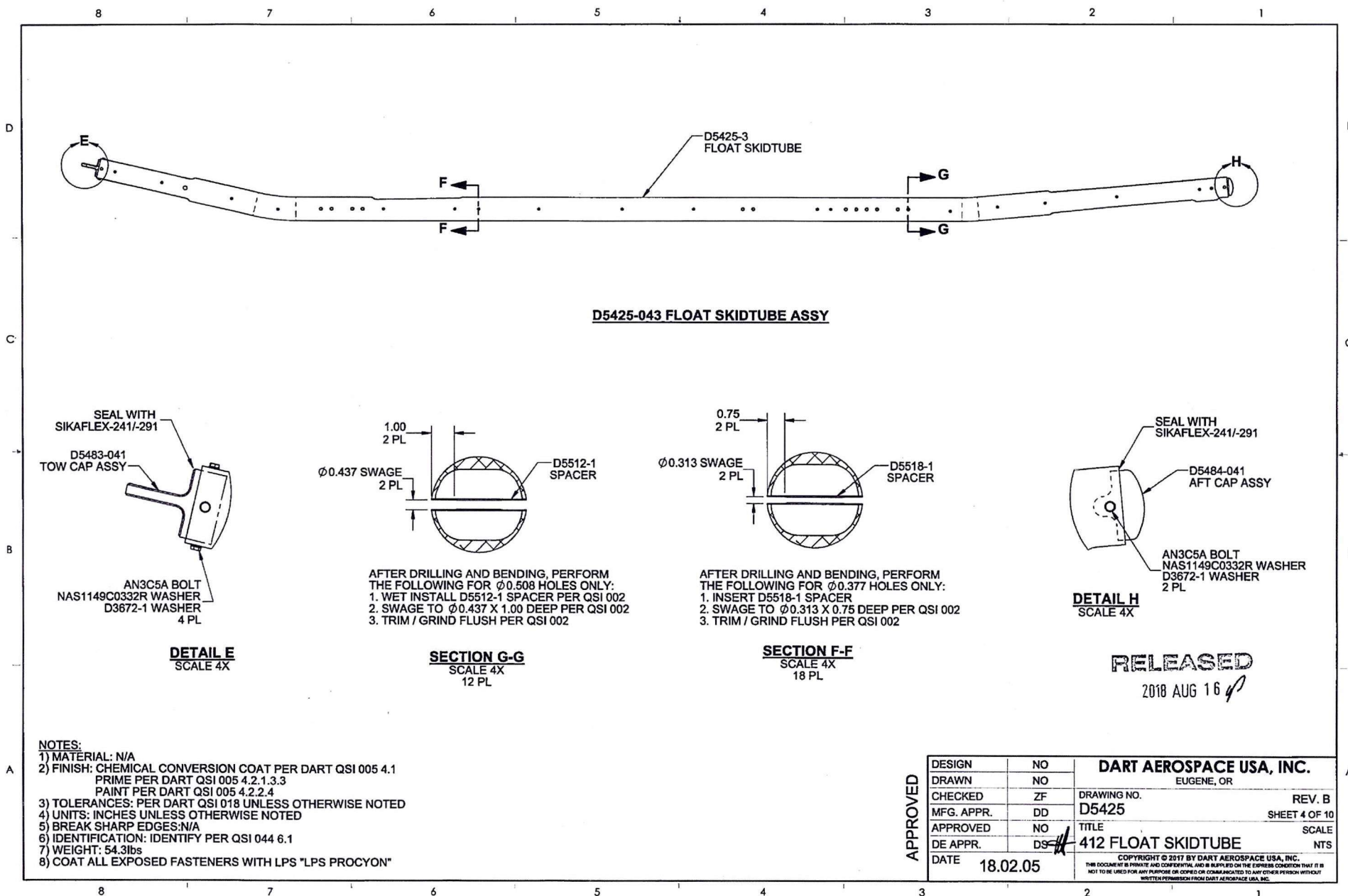


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RELEASED

2018 AUG 16

APPROVED	DESIGN	NO	DART AEROSPACE USA, INC. EUGENE, OR	
	DRAWN	NO		
	CHECKED	ZF	DRAWING NO.	REV. B
	MFG. APPR.	DD	D5425	SHEET 4 OF 10
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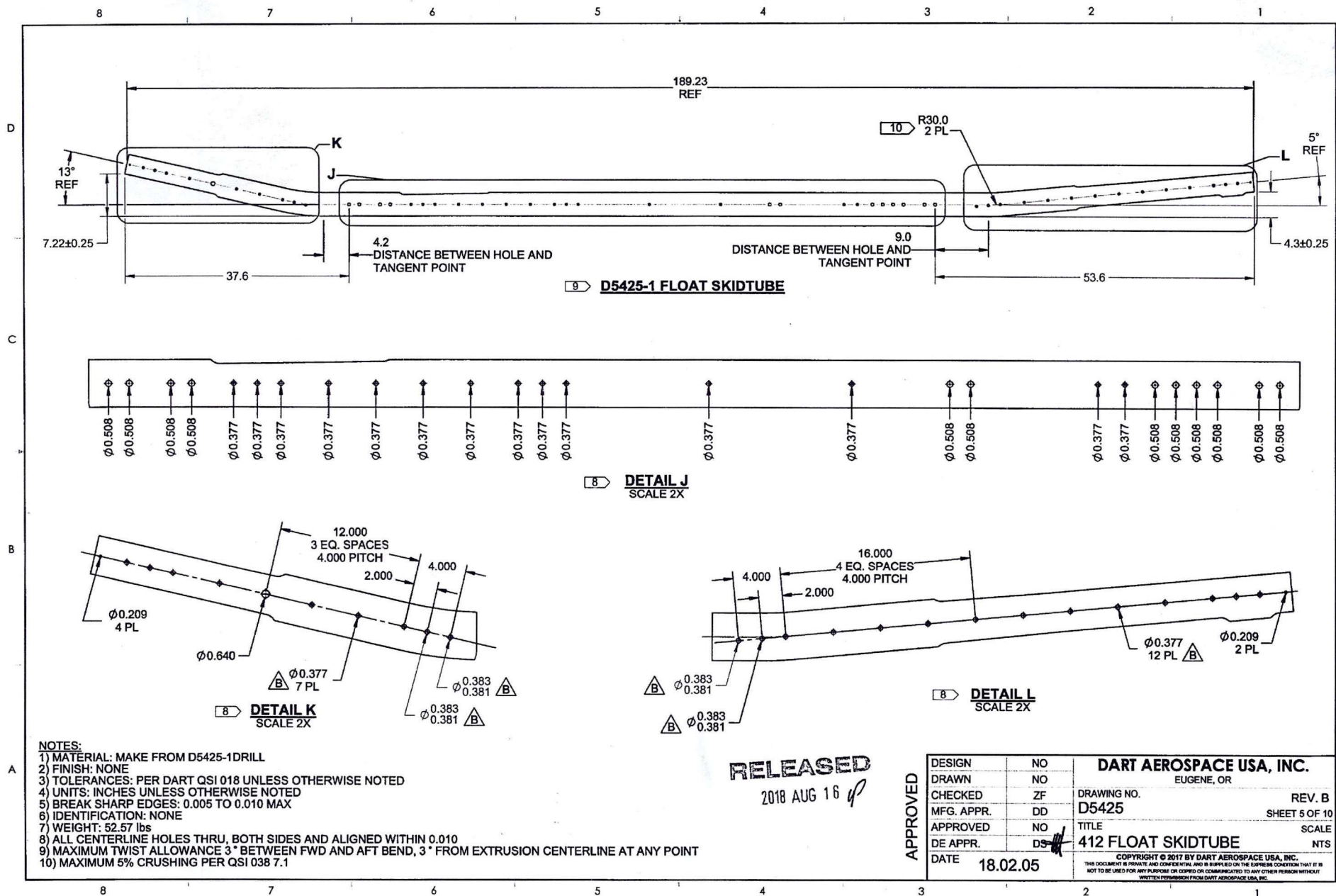


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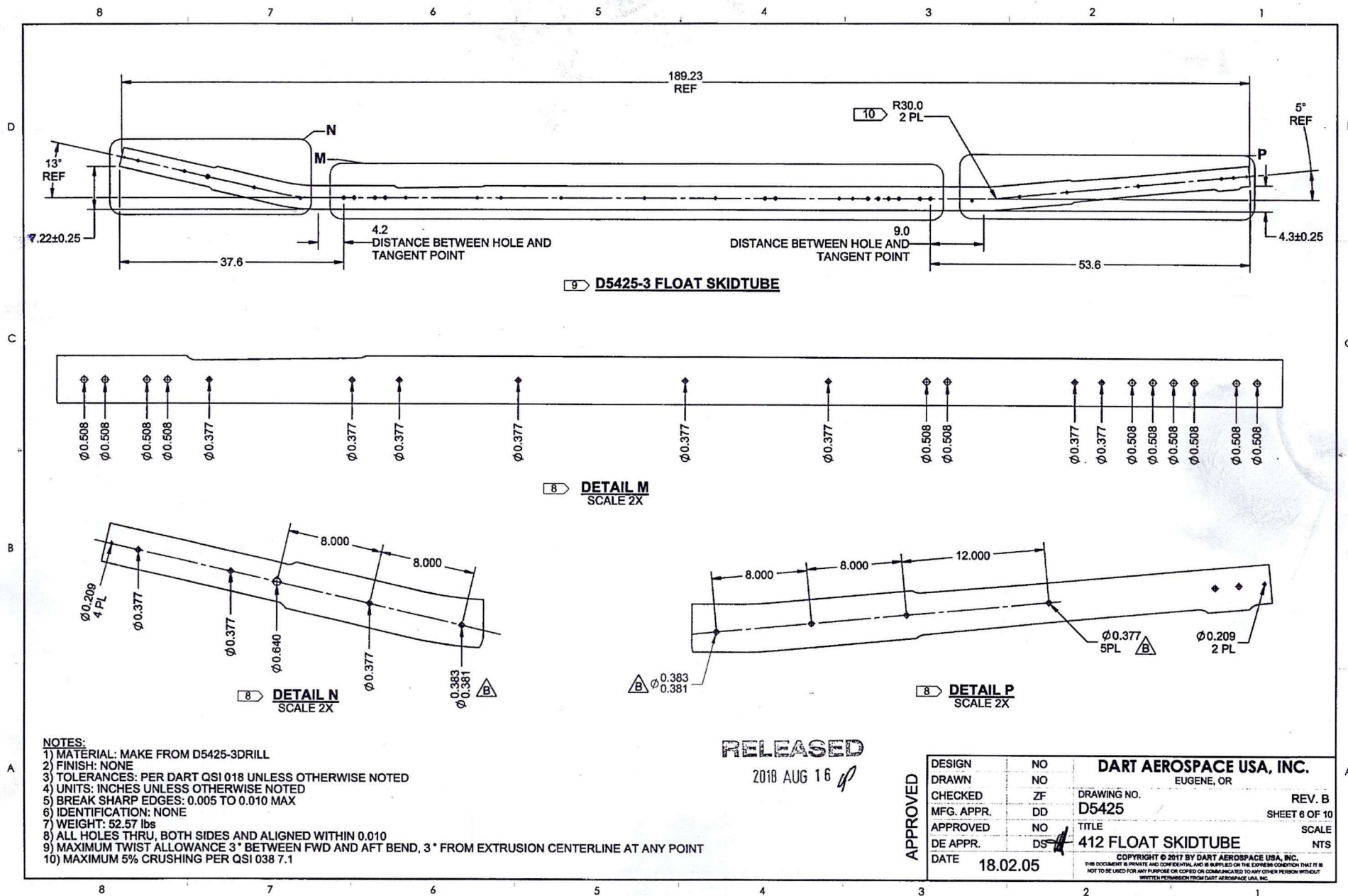


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Entered: _____ Date: _____

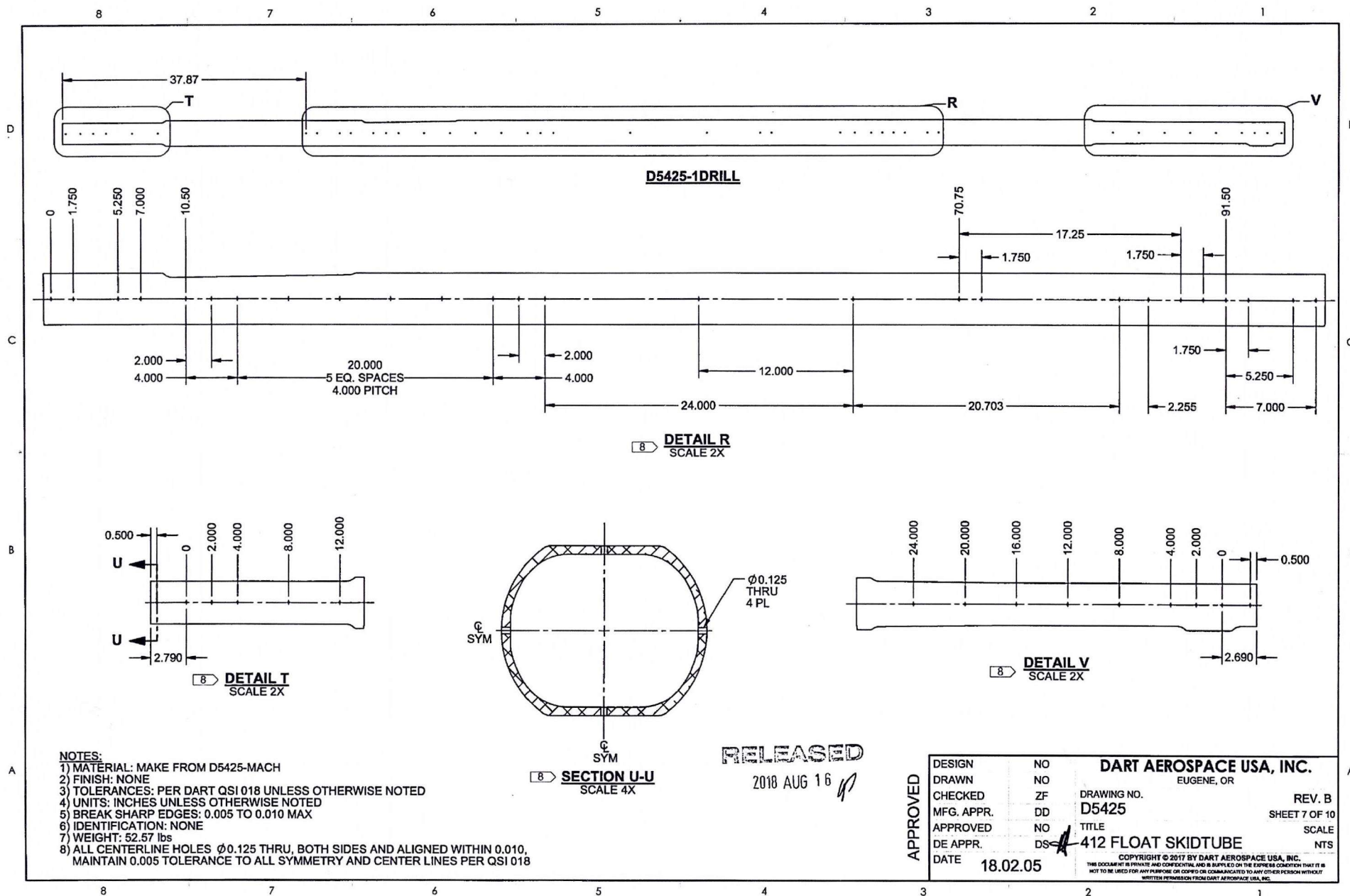


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					



Entered: _____ Date: _____

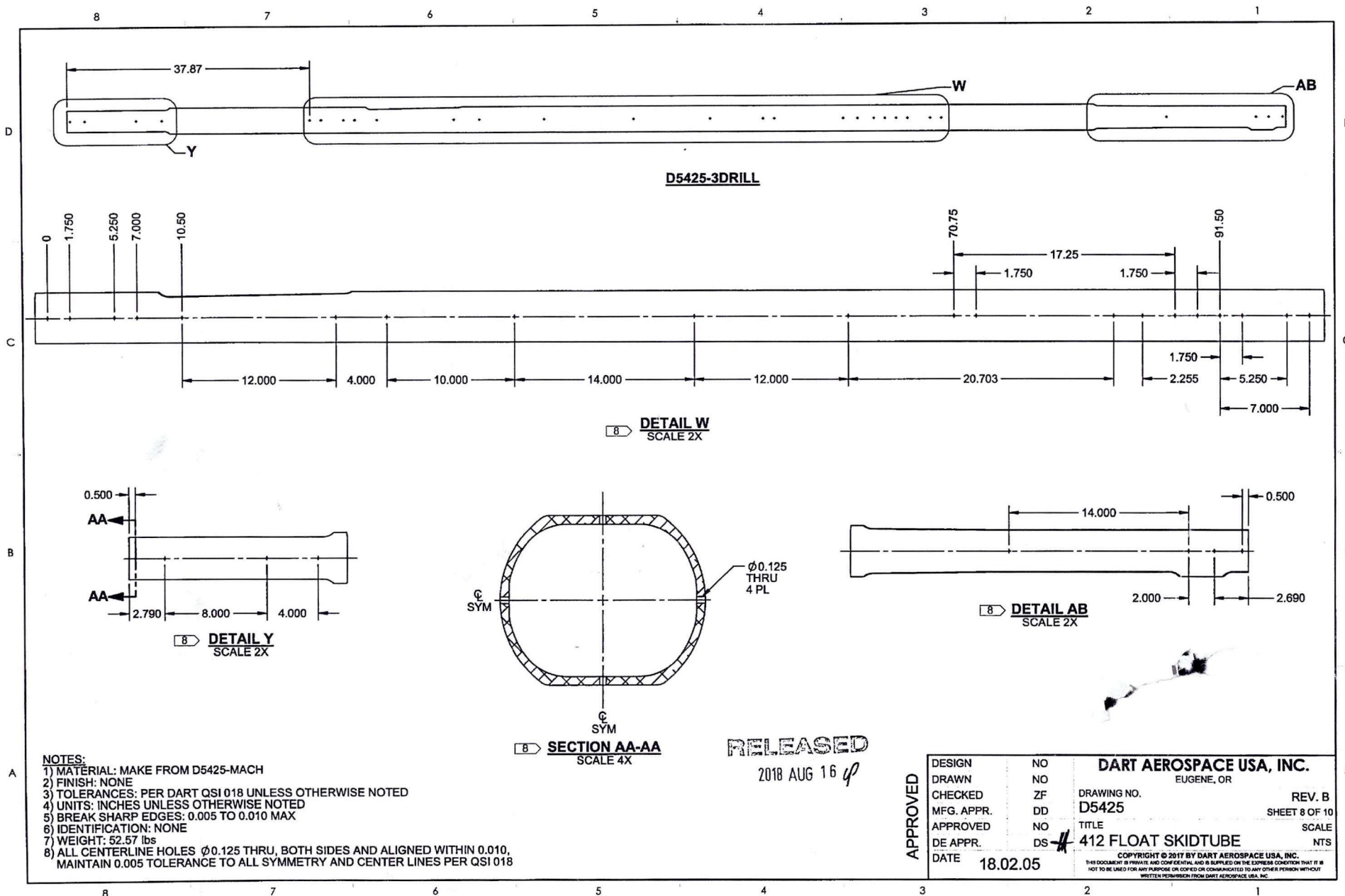


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

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Route update only ☐

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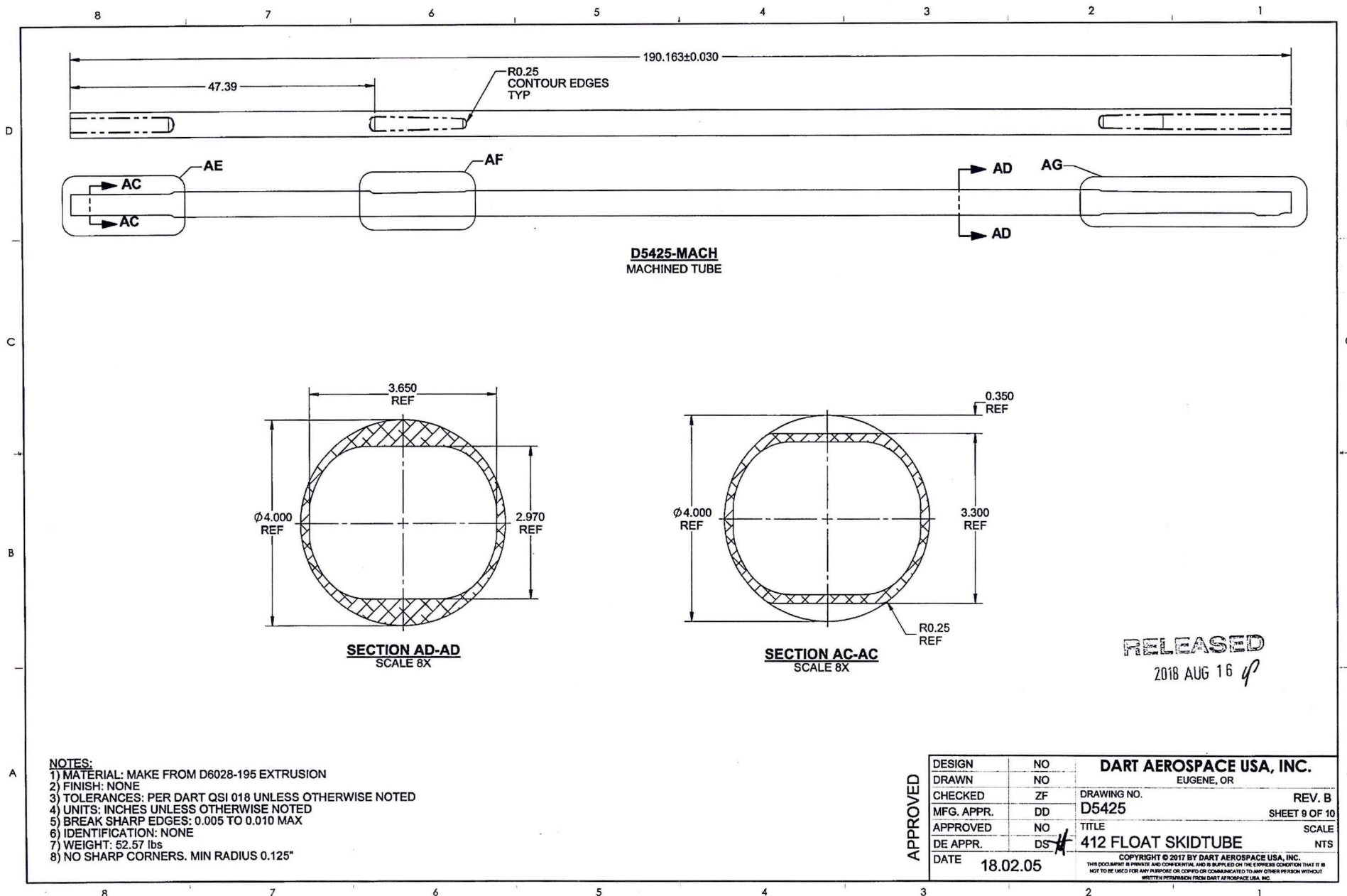


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Eng. (Non-AW) ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Water Jet ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Supplier Quality ☐</td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Eng. (Non-AW) ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Water Jet ☐	Large Fab ☐	Finishing ☐	Rec/Store/Packaging ☐	Supplier Quality ☐																																
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Other/Details: _____																																																	



RELEASED

2018 AUG 16 *4p*

Entered: _____ Date: _____

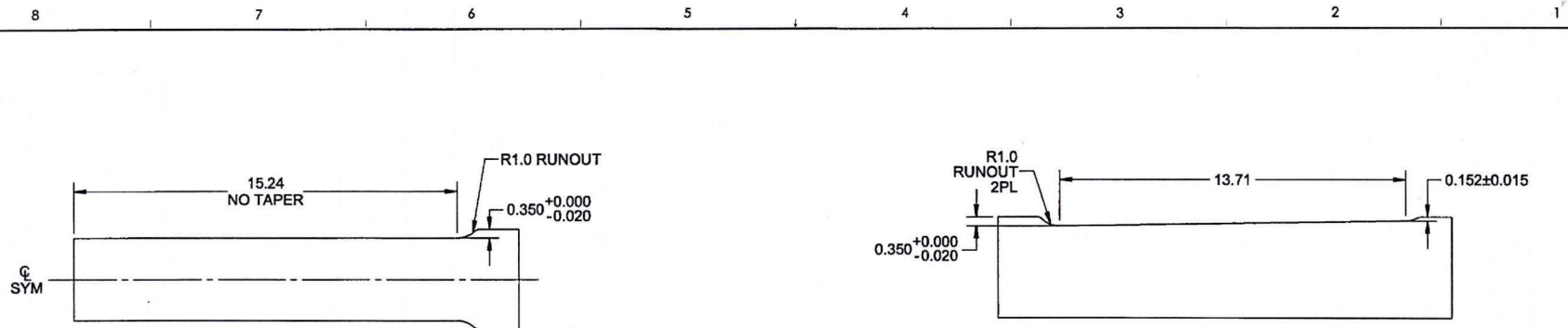


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

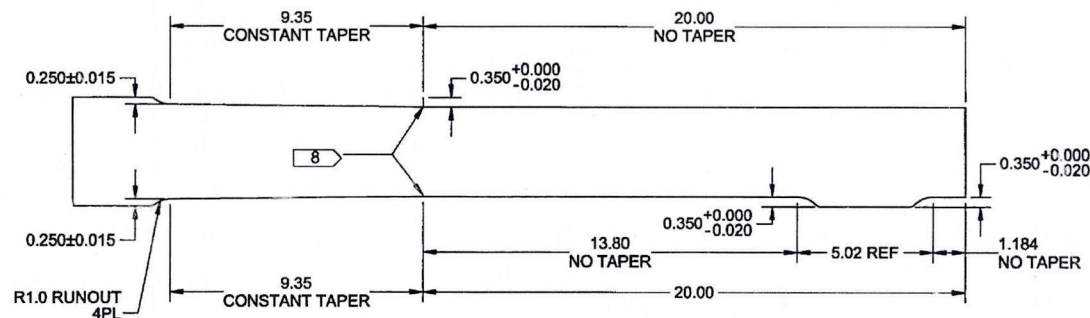
Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) _____	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					



DETAIL AE
SCALE 3X

DETAIL AF
SCALE 3X



DETAIL AG
SCALE 3X

RELEASED

2016 AUG 16 *q*

APPROVED	DESIGN	NO	DART AEROSPACE USA, INC.	
	DRAWN	NO	EUGENE, OR	
	CHECKED	ZF	DRAWING NO.	REV. B
	MFG. APPR.	DD	D5425	SHEET 10 OF 10
	APPROVED	NO	TITLE	SCALE
	DE APPR.	DSS	412 FLOAT SKIDTUBE	NTS
	DATE	18.02.05	COPYRIGHT © 2017 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>188014</u> Part No. <u>D5425-043</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS Skid-tube ☒ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐
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Date : _____	Sequence #: _____	QTY Affected : _____	MRB (QSI042) <u>NO</u> 19.05.15
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Description Work Order Deviation	Disposition	Completed By
Skidtube twist: Aft 5° Fwd 1.8° Δfwd aft 3.2° Dwg tol: 3° Dwg tol: 3° Dwg tol: 3°	Twist up to 5° has little effect on engineering properties of the cross section or moment arms. Verified for aesthetics, skidtube is reusable.	<u>NO</u> 19.05.15 Lead hand / Supervisor <u>TW</u> 19-05-16 QC / QA Coordinator

Root Cause	FAULT CATEGORY			
Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐	☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled	☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up	☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>188014</u> Part No. <u>D5425-043</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Eng. (Non-AW) ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Water Jet ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Supplier ☐</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Quality ☐</td> </tr> </table>			Skid-tube ☐	Cross tube ☐	Eng. (Non-AW) ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Water Jet ☐	Large Fab ☐	Finishing ☐	Rec/Store/Packaging ☐	Supplier ☐				Quality ☐																				
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Date : _____	Sequence #: _____	QTY Affected : _____	MRB (QSI042) <u>NO</u> 19.06.03 Completed By <u>NO</u> 19.06.03 Lead hand / Supervisor QC / QA Coordinator																																					
Description Work Order Deviation Crossbolt spacers twisted 5.2° on aft skidtube. Dwg tol: 3° All crossbolt spacers are aligned on the same plane.		Disposition Twist is a consequence of previously accepted extrusion twist. Bearing area reduction already accounted for in substantiation. Acceptable to use as is																																						
Root Cause <table style="width:100%;"> <tr><td>Operator ☐</td></tr> <tr><td>Manufacturing Process ☐</td></tr> <tr><td>Equip/Tooling ☐</td></tr> <tr><td>Handling/Preservation ☐</td></tr> <tr><td>Material ☐</td></tr> <tr><td>Product Improvement ☐</td></tr> <tr><td>Process Improvement ☐</td></tr> <tr><td>Human Factors ☐</td></tr> </table>		Operator ☐	Manufacturing Process ☐	Equip/Tooling ☐	Handling/Preservation ☐	Material ☐	Product Improvement ☐	Process Improvement ☐	Human Factors ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td>☐ Pressure/Forced</td> <td>☐ Contamination</td> <td>☐ Power Loss/Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Bending</td> <td>☐ Misaligned/off center</td> <td>☐ Folio/Program</td> <td>☐ Outside Tolerance</td> </tr> <tr> <td>☐ Crushing</td> <td>☐ BOM/Route</td> <td>☐ Grain Direction</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Cracks</td> <td>☐ Broken/Damage/Defect</td> <td>☐ Weld</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Crimp/Kink/Ripple/Wave/Twist</td> <td>☐ Incomplete/Unclear Instructions</td> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Marks/Chatter</td> <td>☐ Drill Holes</td> <td>☐ Out of Sequence</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Mislabeled</td> <td>☐ Fit/Function</td> <td>☐ Off-set/Set-up</td> <td></td> </tr> </table>			☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong	☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☐ Outside Tolerance	☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish	☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread	☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>188014</u> Part No. <u>DS425-043</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Water Jet ☐ Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Supplier ☐ Quality ☐			
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Date : _____ Sequence #: _____ QTY Affected : _____ MRB (QSI042) NO 10.06.25

Description Work Order Deviation	Disposition	Completed By
Twisted holes cause 1/8" misalignment at aft cap.	Slot aft cap holes to 0.13X 0.25. wearplate fit test conducted to verify wp fit. Non-structural cap no effect on substantiation Slot must be apparent as intentional slot, not result of ovalization per 1CA	<u>JW</u> <u>10-06-25</u> Lead hand / Supervisor
		QC / QA Coordinator <u>68</u> 9-89 JUN 26 2019

Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐	FAULT CATEGORY <table> <tr> <td>☐ Pressure/Forced</td> <td>☐ Contamination</td> <td>☐ Power Loss/Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Bending</td> <td>☐ Misaligned/off center</td> <td>☐ Folio/Program</td> <td>☐ Outside Tolerance</td> </tr> <tr> <td>☐ Crushing</td> <td>☐ BOM/Route</td> <td>☐ Grain Direction</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Cracks</td> <td>☐ Broken/Damage/Defect</td> <td>☐ Weld</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Crimp/Kink/Ripple/Wave/Twist</td> <td>☐ Incomplete/Unclear Instructions</td> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Marks/Chatter</td> <td>☐ Drill Holes</td> <td>☐ Out of Sequence</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Mislabeled</td> <td>☐ Fit/Function</td> <td>☐ Off-set/Set-up</td> <td></td> </tr> </table>	☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong	☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☐ Outside Tolerance	☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish	☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread	☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	
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